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# United States Patent [19]

Martin et al.

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## [54] MULTIPLE LUMEN CATHETER

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[\*] Notice: The portion of the term of this patent subsequent to Mar. 23, 2010, has been disclaimed.

[21] Appl. No.: 481,169

[22] Filed: Jan. 7, 1995

(Under 37 CFR 1.47)

### Related U.S. Application Data

[63] Continuation of Ser. No. 205,331, Mar. 3, 1994, Pat. No. 5,472,417, which is a continuation of Ser. No. 783,351, Oct. 30, 1991, abandoned, which is a continuation of Ser. No. 244,964, Dec. 22, 1988, Pat. No. 5,195,962.

### [30] Foreign Application Priority Data

Dec. 22, 1987 [CA] Canada ..... 533076

[51] Int. Cl.<sup>4</sup> ..... A61M 3/00

[52] U.S. Cl. .... 604/443; 604/177; 604/280; 604/283

[58] Field of Search ..... 604/443, 264, 280-283, 604/284, 101, 102, 164-169, 4-7, 174, 177-180; 138/111-117

### [56] References Cited

#### U.S. PATENT DOCUMENTS

Re. 31,873 4/1985 Howes.  
 D. 272,651 2/1984 Mahurkar.  
 550,238 11/1995 Allen, Jr.  
 1,696,018 12/1998 Schellberg.  
 1,922,094 4/1993 Garow.  
 2,173,527 9/1999 Agayoff.  
 2,175,726 10/1999 Osbomer.  
 2,230,218 6/1991 Ascho.

(List continued on next page.)

### FOREIGN PATENT DOCUMENTS

0834211 2/1976 Belgium.  
 0960932 1/1975 Canada.  
 1092927 1/1981 Canada.  
 1112533 11/1981 Canada.  
 0050089 8/1982 Canada.  
 1150122 7/1983 Canada.  
 1167727 5/1984 Canada.

(List continued on next page.)

### OTHER PUBLICATIONS

Arrow International, Inc., *510(K) Notification for Multi-Lumen M.I.S.™ Catheterization System* (Apr. 14, 1982).

Arrow International, Inc., *510(K) Notification for Arrow Central Venous Multi-Lumen Catheter with Flex Tip* (Aug. 25, 1986).

Arrow International, Inc., *Arrow®-Howes™ Multi-Lumen Central Venous Catheterization Kit* (circa 1986).

(List continued on next page.)

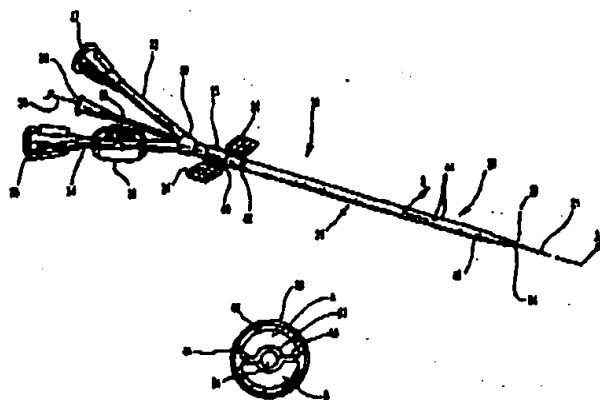
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### [57]

#### ABSTRACT

The invention provides a cylindrical elongate body extending from a proximal to a distal end, the body defining two similar longitudinally extending lumens separated by a septum and a further lumen defined within the septum, a tip extending from the distal end of the body defining a part of the further lumen, a connector at the proximal end, tubes coupled to the connector and in fluid communication through the connector one with each of the respective lumens, the body defining openings providing access one to each of the longitudinally extending lumens, the openings being spaced from one another longitudinally of the body and the further lumen extending longitudinally beyond the longitudinally extending lumens and through the tip, the further lumen terminating at an opening at the distal end of the tip and the tip being convergently tapered as it extends longitudinally from the body and the longitudinally extending lumens being blocked immediately adjacent and distally of the openings.

23 Claims, 9 Drawing Sheets



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